

SHEET LIST:

G-SERIES PLANS: GENERAL

- G1 COVER SHEET
- G2 NOTES AND ABBREVIATIONS
- G3 GENERAL ARRANGEMENT
- G4 MONITORING LOCATION PLAN
- G5 SAFETY PLAN
- G6 AS-BUILT PLAN
- G7 PIPING DEMOLITION PLAN
- G8 CHEMICAL CONDUIT PLAN
- G9 GRADING AND DRAINAGE PLAN - NORTH
- G10 GRADING AND DRAINAGE PLAN - SOUTH
- G11 TREATMENT SYSTEM ACCESS ROAD PLAN AND PROFILE

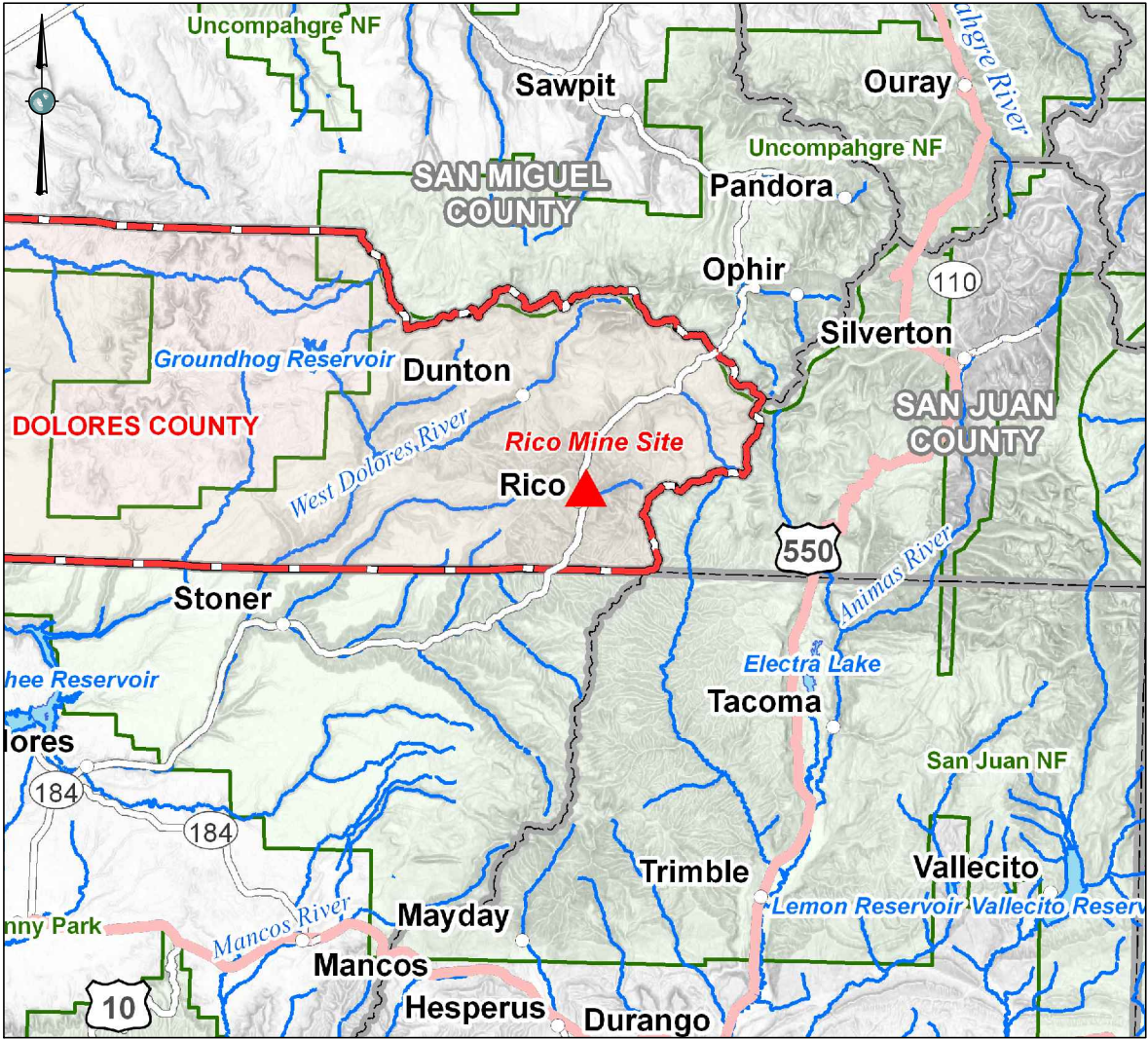
H-SERIES PLANS: HSSF WETLAND

- H1 HWTT PROCESS FLOW DIAGRAM
- H2 FLOW DIVERSION PLAN
- H3 SB NO. 1 PLAN
- H4 SF WETLAND PLAN
- H5 HSSF WETLAND PLAN
- H6 AERATION CHANNEL PLAN
- H7 ROCK DRAIN PLAN
- H8 HWTT OUTFALL PLAN
- H9 HWTT HYDRAULIC PROFILE
- H10 SB NO. 1 TYPICAL SECTIONS
- H11 SB DETAILS
- H12 SF WETLAND SECTIONS
- H13 HSSF WETLAND SECTIONS
- H14 HSSF WETLAND DETAILS
- H15 AERATION CHANNEL SECTIONS
- H16 AERATION CHANNEL DETAILS
- H17 ROCK DRAIN SECTIONS
- H18 ROCK DRAIN DETAILS
- H19 SECTIONS AND DETAILS SHEET
- H20 SECTIONS AND DETAILS SHEET
- H21 SECTIONS AND DETAILS SHEET
- H22 SECTIONS AND DETAILS SHEET
- H23 SECTIONS AND DETAILS SHEET
- H24 SECTIONS AND DETAILS SHEET
- H25 MONITORING EQUIPMENT INSTALLATION DETAILS

V-SERIES PLANS: VF BIOTREATMENT

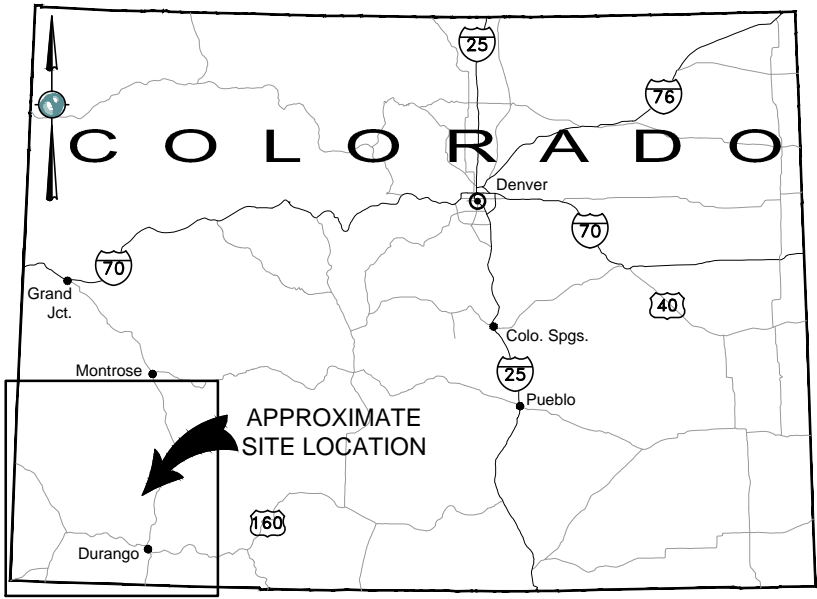
- V1 VWTT PROCESS FLOW DIAGRAM
- V2 SB NO. 2 PLAN VIEW
- V3 BIOTREATMENT CELL PLAN VIEW
- V4 AERATION CASCADE PLAN VIEW
- V5 SB NO. 2 SECTIONS
- V6 BIOTREATMENT CELL SECTIONS
- V7 AERATION CASCADE SECTIONS
- V8 HYDRAULIC PROFILE

RICO - ARGENTINE MINE SITE  
WETLAND DEMONSTRATION  
DOLORES COUNTY, COLORADO



MAP LEGEND

- Mine Site
- City
- Major Highway
- Major Road
- River
- Waterbody
- Dolores County
- County Boundary



LOCATION MAP  
NO SCALE

E-SERIES PLANS: ELECTRICAL AND TELEMTRY

- E1 ONE-LINE DIAGRAM & PANELBOARD SCHEDULE
- E2 TELEMTRY/NETWORK
- E3 OVERALL CONDUIT
- E4 CONDUIT BLOCK DIAGRAM
- E5 CIRCUIT PLAN
- E6 TRENCH DETAIL
- E7 BOX DESIGN CJB-2 & CJB-3
- E8 BOX DESIGN CJB-1
- E9 BOX DESIGN PLC PANEL
- E10 BOX DESIGN CJB-2 & CJB-3
- E11 GROUNDING DETAILS
- I1 PROCESS AND INSTRUMENTATION DIAGRAM

V-SERIES PLANS: VF BIOTREATMENT (CONTINUED)

- V9 SECTIONS AND DETAILS
- V10 SECTIONS AND DETAILS
- V11 SECTIONS AND DETAILS
- V12 SECTIONS AND DETAILS
- V13 SECTIONS AND DETAILS
- V14 SECTIONS AND DETAILS
- V15 SECTIONS AND DETAILS

0 1" IF THIS LINE IS NOT EQUAL TO ONE INCH  
ADJUST SCALES ACCORDINGLY

REFERENCES:		NO.	REVISION	DATE	APRVD	DRAWN	MGC	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13	
PLANS		1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED	KF			SCALE: NTS	
DATUM						CHECKED	CBF	COVER SHEET		SHEET: 1 OF 11	
UTM ZONE 12S FEET, NAD 83						REVIEWED	STA			PROJ No:	G1
										SA11161315	

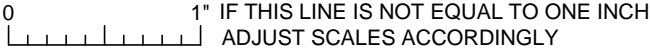
**amec**  
10670 White Rock Road, Suite 100  
Rancho Cordova, CA 95670  
(916) 636-3200

Plot Date: 12/24/13 - 1:46pm, Plotted by: kelly.leaney  
Drawing Path: P:\Project\RICO - SA11161301\3\CAD\Wetland Demonstration\Plan Set\, Drawing Name: Notes Sheet.dwg

NOTES:

1. ELEVATIONS ARE PRESENTED AS FEET ABOVE MEAN SEA LEVEL
2. CONTROL POINT 03 (FOLEY)

N: 1388956.46  
E: 2267960.06  
Z: 8845.24
3. EXISTING ACCESS ROAD TO REMAIN OPEN AND MAINTAINED DURING CONSTRUCTION. TEMPORARY CLOSURES TO THE EXISTING ACCESS MUST BE COORDINATED WITH OWNERS REPRESENTATIVE. IMPACTS TO THE EXISTING ACCESS ROAD MUST BE REPAIRED WITH COMPACTED CLASS 6 GRADED TO MATCH EXISTING GRADE.
4. THE ST. LOUIS CHANNEL SHALL REMAIN FUNCTIONAL AND UNIMPACTED DURING CONSTRUCTION.
5. EXISTING STRUCTURES AND TOPOGRAPHY ARE BASED ON A COMPILATION OF AERIAL IMAGERY, SURVEY AND FIELD VISITS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS.
6. THE CONSTRUCTION SITE IS KNOWN TO CONTAIN CALCINE RESIDUALS FROM HISTORIC MINING ACTIVITIES. THE DUSTS GENERATED IN THE HANDLING OF THESE DEPOSITS IS AN INHALATION HAZARD. CONTRACTOR SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL INCLUDE DUST AND WORKER EXPOSURE MITIGATION MEASURES.
7. IF CALCINES ARE ENCOUNTERED DURING EXCAVATION, CALCINES SHALL BE SEGREGATED AND STORED IN A SEPARATE AREA IN THE LAYDOWN AS SPECIFIED BY OWNERS REPRESENTATIVE.
8. CONTRACTOR LAY DOWN YARD IS NORTH OF PROJECT SITE. LAY DOWN YARD SHALL BE USED FOR STORAGE OF EQUIPMENT AND PRODUCTS AWAITING USE ON THE SITE. CONTRACTOR SHALL MAKE PROVISIONS FOR MOVING EQUIPMENT AND MATERIALS BETWEEN LAY DOWN YARD AND PROJECT SITE. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE.
9. POND SEDIMENTS ARE UNSUITABLE FOR USE AS BACKFILL MATERIAL, AND SHALL BE SEGREGATED AND STORED IN A SEPARATE AREA AS SPECIFIED BY OWNERS REPRESENTATIVE.
10. A 4-FT WIDE WALKING ACCESS SHALL BE GRADED AROUND ALL EDGES OF EACH BASIN ABOVE THE FREEBOARD HEIGHT. THE ACCESS PATH SHALL BE GRADED AT A 2.0% SLOPE AWAY FROM THE BASIN. THE PATH MAY BE ELIMINATED WHERE IMMEDIATELY ADJACENT TO ANOTHER ACCESS PATH OR ACCESS ROAD, UNLESS WITHIN A PROPOSED FENCING AREA. WHERE POSSIBLE, ACCESS PATH SHOULD CONNECT TO ADJACENT ACCESS ROAD.
11. OUTSIDE OF THE 4-FT WALKING ACCESS AROUND EACH BASIN, THE FINAL GRADE SHALL BE SLOPED AWAY FROM THE TREATMENT BASIN IN ORDER TO MINIMIZE STORMWATER RUNOFF TOWARDS THE BASIN. OUTSIDE THE BASIN FREEBOARD ELEVATION, GRADING SHALL, IN GENERAL, DRAIN TO POND 18. INSTALL BERMS OR SWALES AS NECESSARY TO ACCOMPLISH THIS INTENT.
12. THE CONTRACTOR SHALL CONDUCT ALL CONSTRUCTION OPERATIONS TO CONTROL SITE RUNOFF AND PREVENT THE POLLUTION OF WATERS OF COLORADO. THE CONTRACTOR SHALL EMPLOY TEMPORARY BEST MANAGEMENT PRACTICES (BMPS) AS DETAILED IN SECTION M-208-1 OF THE 2012 M-STANDARD PLANS AVAILABLE FROM THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) AVAILABLE AT [HTTP://WWW.COLORADODOT.INFO/BUSINESS/DESIGNSUPPORT/STANDARD-PLANS/2012-M-STANDARDS-PLANS/2012-M-STANDARDS-PDFS/10-TEMPROARY-EROSION-CONTROL/M-208-1%20TEMP%20EROSION%20CONTROL%20ALL](http://www.coloradodot.info/business/designsupport/standard-plans/2012-m-standards-plans/2012-m-standards-pdfs/10-temporary-erosion-control/m-208-1%20temp%20erosion%20control%20all)
13. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, AND WASHERS SHALL BE STAINLESS STEEL. SUBGRADE FASTENERS SUCH AS FLANGED CONNECTIONS SHALL BE STAINLESS STEEL. PIPE CLAMPS SHALL BE PLASTIC (PVC OR ALTERNATIVE) WITH STAINLESS STEEL BOLTS INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
14. NORTHING AND EASTINGS LISTED FOR PIPE BENDS AND STRUCTURES ARE TO THE CENTER OF THE STRUCTURE. IF APPROVED BY THE ENGINEER, ALIGNMENTS MAY BE SHIFTED HORIZONTALLY AS NECESSARY TO ALLOW FOR FIELD FIT.
15. ALL VALVE BOXES AND PIPE ACCESS STRUCTURES SHALL BE CENTERED OVER THE PIPE AND APPURTENANCES.
16. 6" PERF PIPE AT INLET AND OUTLET STRUCTURES SHALL BE 6" SCH 40 PVC PIPE WITH (4) 3/4" HOLES AT 45°, 135°, 225°, AND 315° AND SPACED EVERY 6", UNLESS OTHERWISE NOTED. 6" PERFORATED PIPE FOR SB NO. 1 OUTLET STRUCTURE SHALL BE 6" SCH 40 PVC PIPE WITH (2) ¾" HOLES AT 0° AND 180° AND SPACED EVERY 12". FOR PERFORATED PIPE IN THE VF BIOTREATMENT CELL, REFER TO THE V-SERIES PLANS.

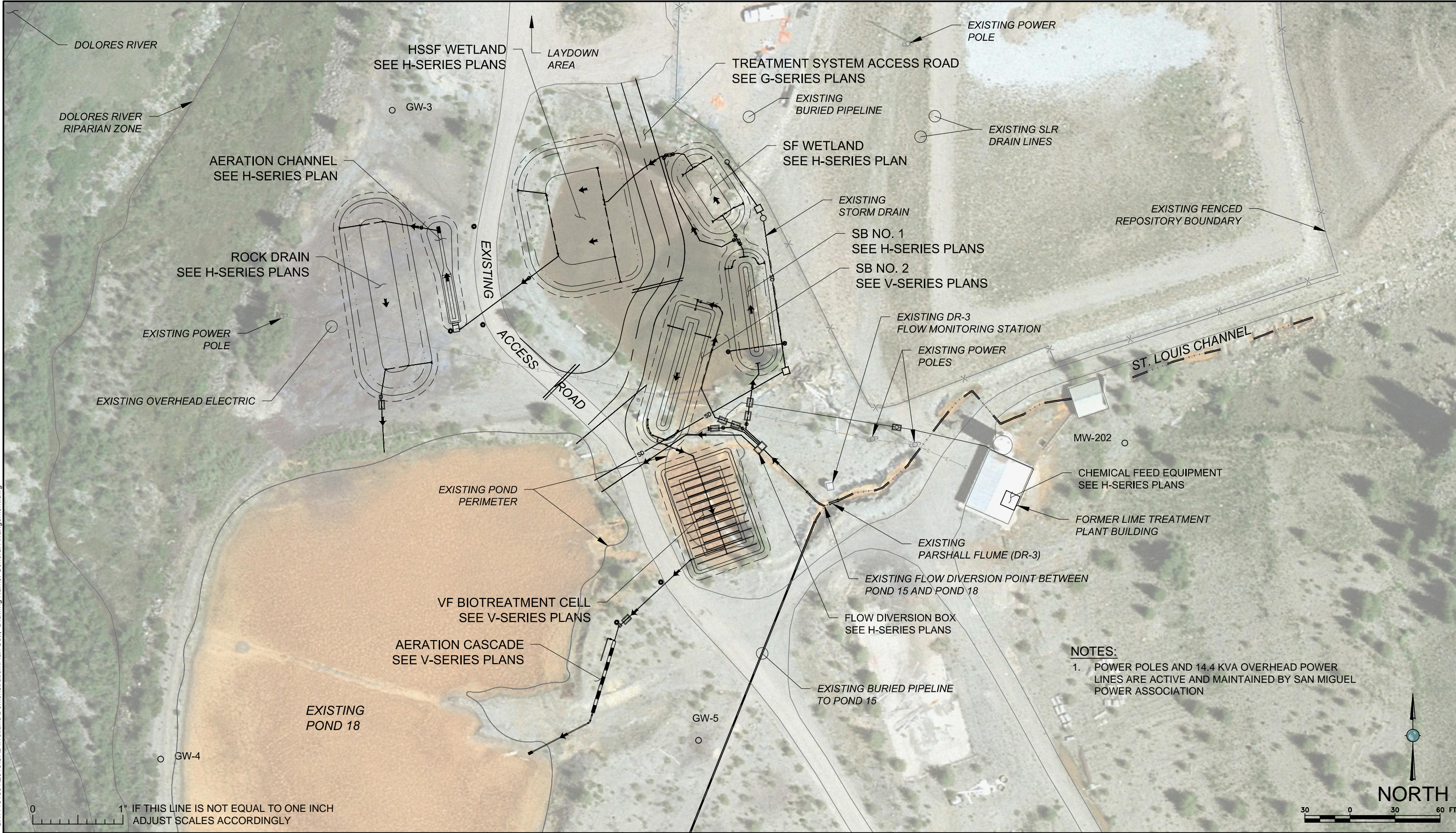


ABBREVIATIONS:

APPROX. = APPROXIMATELY  
AFG = ABOVE FINISHED GRADE  
BOM = BOTTOM OF MATRIX  
BP = ALIGNMENT BEGINNING  
BVCE = VERTICAL TANGENT - CURVE INTERSECT ELEVATION  
BVCS = VERTICAL TANGENT - CURVE INTERSECT STATION  
CPVC = CHLORINATED POLYVINYL CHLORIDE  
CHDPE = CORRUGATED HIGH DENSITY POLYETHYLENE  
D = DEPTH  
DIA. = DIAMETER  
EP = ALIGNMENT END  
EVCE = VERTICAL CURVE - TANGENT INTERSECTION ELEVATION  
EVCS = VERTICAL CURVE - TANGENT INTERSECTION STATION  
FNPT = FEMALE NATIONAL PIPE THREAD  
GPM = GALLONS PER MINUTE  
H = HEIGHT  
H2S = HYDROGEN SULFIDE  
HDPE = HIGH DENSITY POLYETHYLENE  
HSSF = HORIZONTAL SUBSURFACE FLOW  
HWTT= HORIZONTAL WETLAND TREATMENT TRAIN  
INVERT = BOTTOM OF PIPE/FLOW LINE  
K = CURVE COEFFICIENT  
L = LENGTH  
LB = BOUND  
LVC = LENGTH OF VERTICAL CURVE  
MAX. = MAXIMUM  
MIL = MILLIMETER  
MIN. = MINIMUM  
MNPT = MALE NATIONAL PIPE THREAD  
NO. = NUMBER  
O.C. = ON CENTER  
O.D. = OUTSIDE DIAMETER  
OZ = OUNCE  
PC = POINT OF CURVATURE  
PERF. = PERFORATED PIPE  
PPE = PERSONAL PROTECTIVE EQUIPMENT  
PT = POINT OF TANGENCY  
PVC = POLYVINYL CHLORIDE  
PVI = POINTS OF VERTICAL INTERSECTION  
S = SLOPE  
SS = STAINLESS STEEL  
SB = SETTLING BASIN  
SCH = SCHEDULE  
SF = SURFACE FLOW  
SLR= SOIL LEAD REPOSITORY  
STA = STATION  
TEMP = TEMPERATURE  
TOB = TOP OF BERM (TOP OF FREEBOARD)  
TOM = TOP OF MATRIX  
TYP. = TYPICAL  
V = VOLT  
VF = VERTICAL FLOW  
VWTT= VERTICAL WETLAND TREATMENT TRAIN  
W = WIDTH  
WCS = WATER CONTROL STRUCTURE  
WSE = WATER SURFACE ELEVATION

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____KMW	<div> 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200</div>	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13	
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED_____KMW				SCALE: NTS	
					CHECKED_____CBF				SHEET: 2 OF 11	
					REVIEWED_____STA					
DATUM UTM ZONE 125 FEET, NAD 83							NOTES AND ABBREVIATIONS		PROJ No: SA11161315	G2





**NOTES:**  
1. POWER POLES AND 14.4 KVA OVERHEAD POWER LINES ARE ACTIVE AND MAINTAINED BY SAN MIGUEL POWER ASSOCIATION

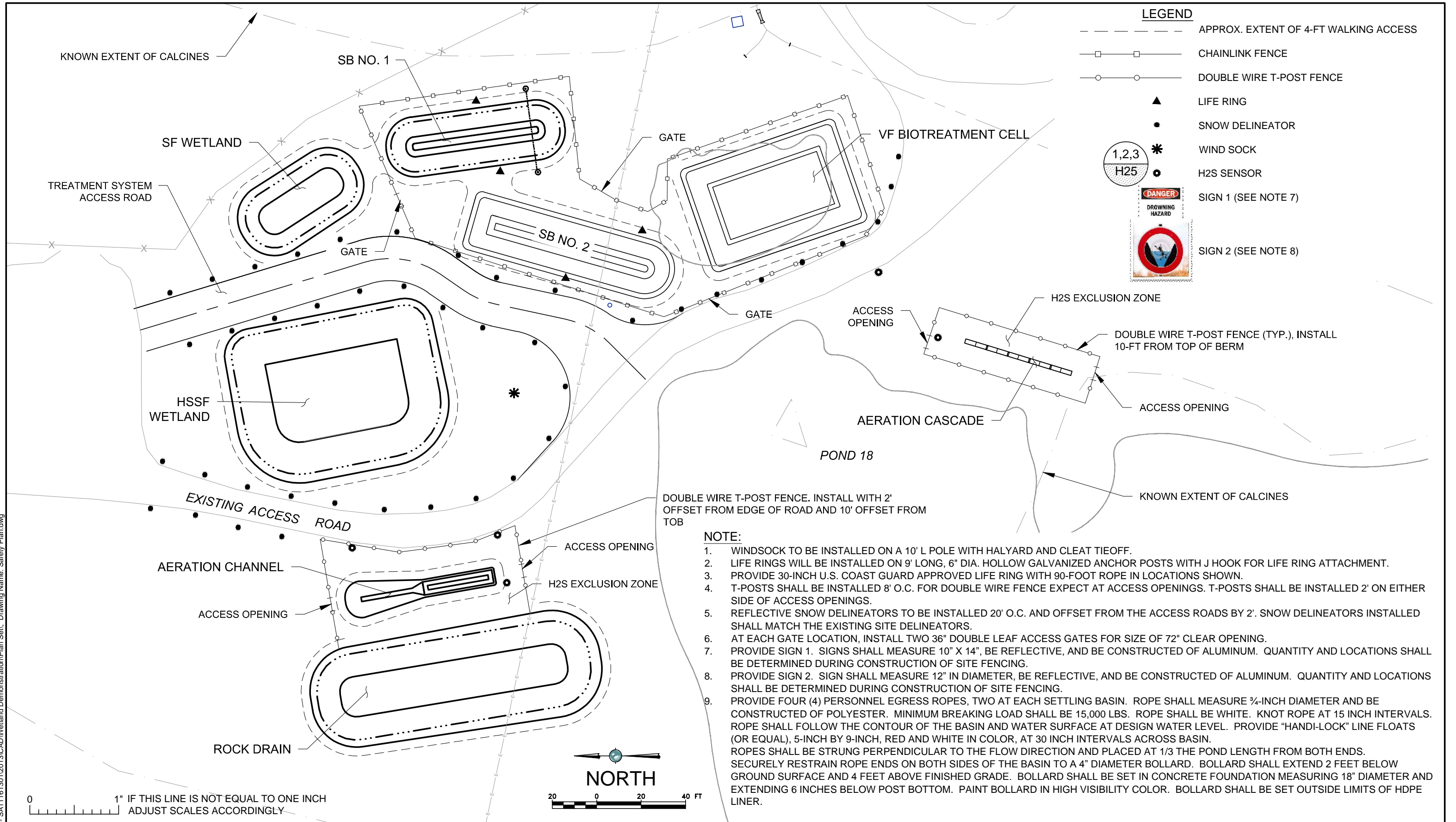
REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	KF	<div>amc</div> <div>10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200</div>	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13	
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED	KF				SCALE: 1" = 60'	
					CHECKED	CBF		GENERAL ARRANGEMENT		SHEET: 3 OF 11	
					REVIEWED	STA				PROJ No: SA11161315	G3
DATUM UTM ZONE 125 FEET, NAD 83											

Plot Date: 12/24/13 - 1:46pm, Plotted by: kelly.leaney  
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan Set\ Drawing Name: General Arrangement.dwg



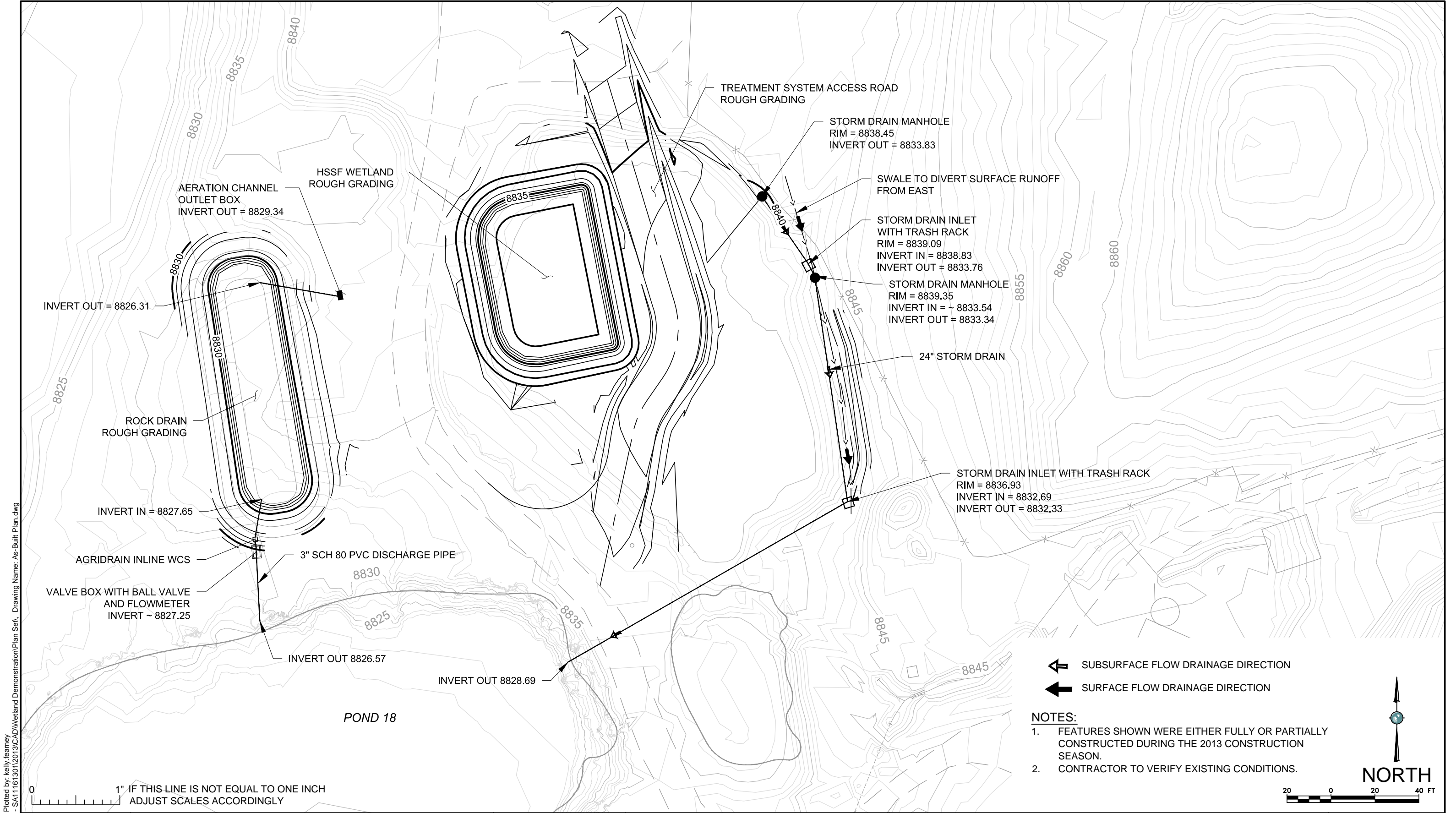


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REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	MGC	<div>amec</div> <div>10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200</div>	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13	
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED	MGC				SCALE: 1"=40'	
					CHECKED	CBF		SAFETY PLAN		SHEET: 5 OF 11	
					REVIEWED	STA				PROJ No:	
										SA11161315	
DATUM UTM ZONE 125 FEET, NAD 83										G5	



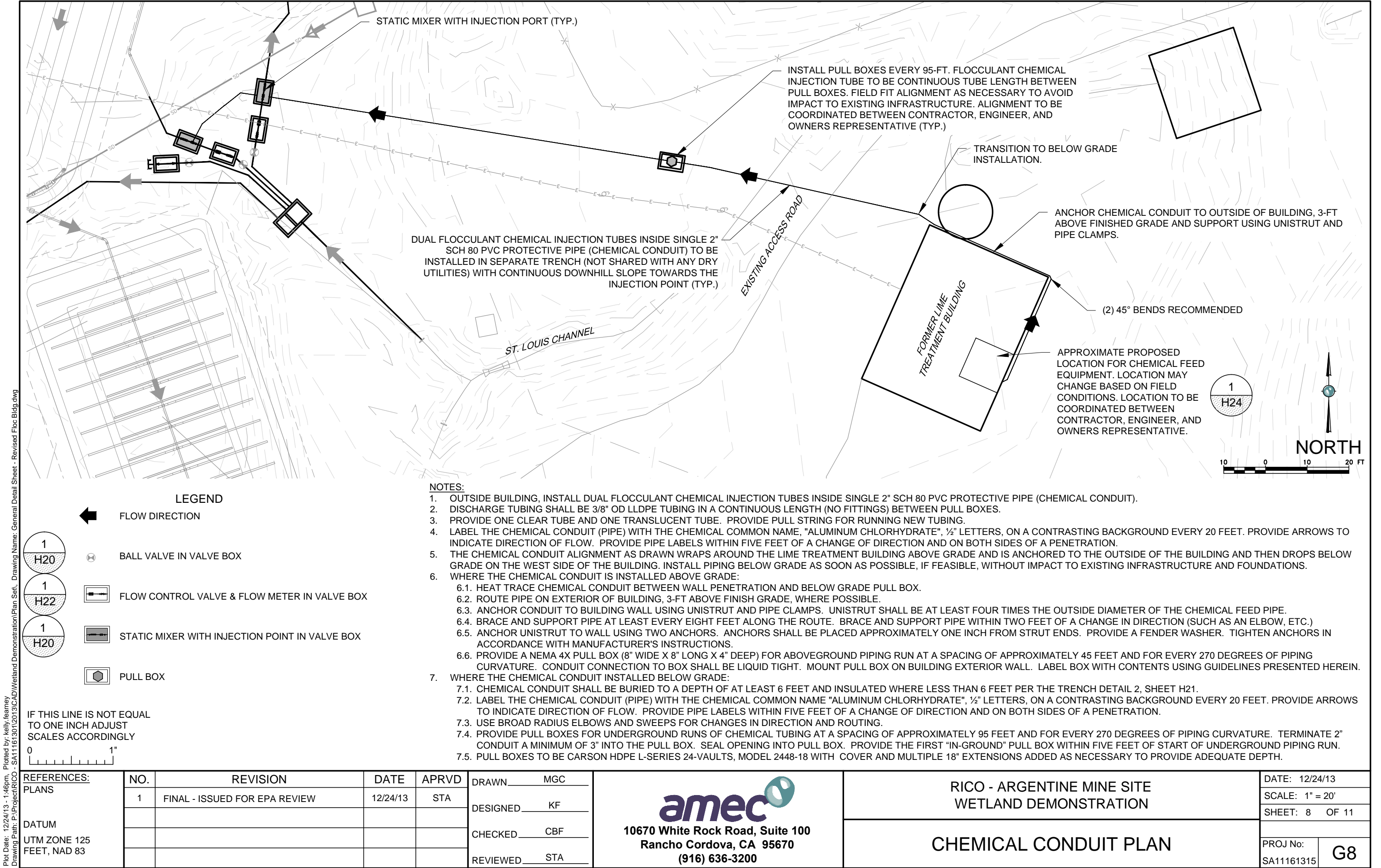


REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____KF	 <b>10670 White Rock Road, Suite 100</b> <b>Rancho Cordova, CA 95670</b> <b>(916) 636-3200</b>	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION			DATE: 12/24/13		
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED_____KF					SCALE: 1"=40'		
							CHECKED_____CBF	AS-BUILT PLAN		SHEET: 6 OF 11		
							REVIEWED_____STA			PROJ No: SA11161315		G6
	DATUM UTM ZONE 125 FEET, NAD 83											

Plot Date: 12/24/13 - 1:46pm, Plotted by: kelly.learney  
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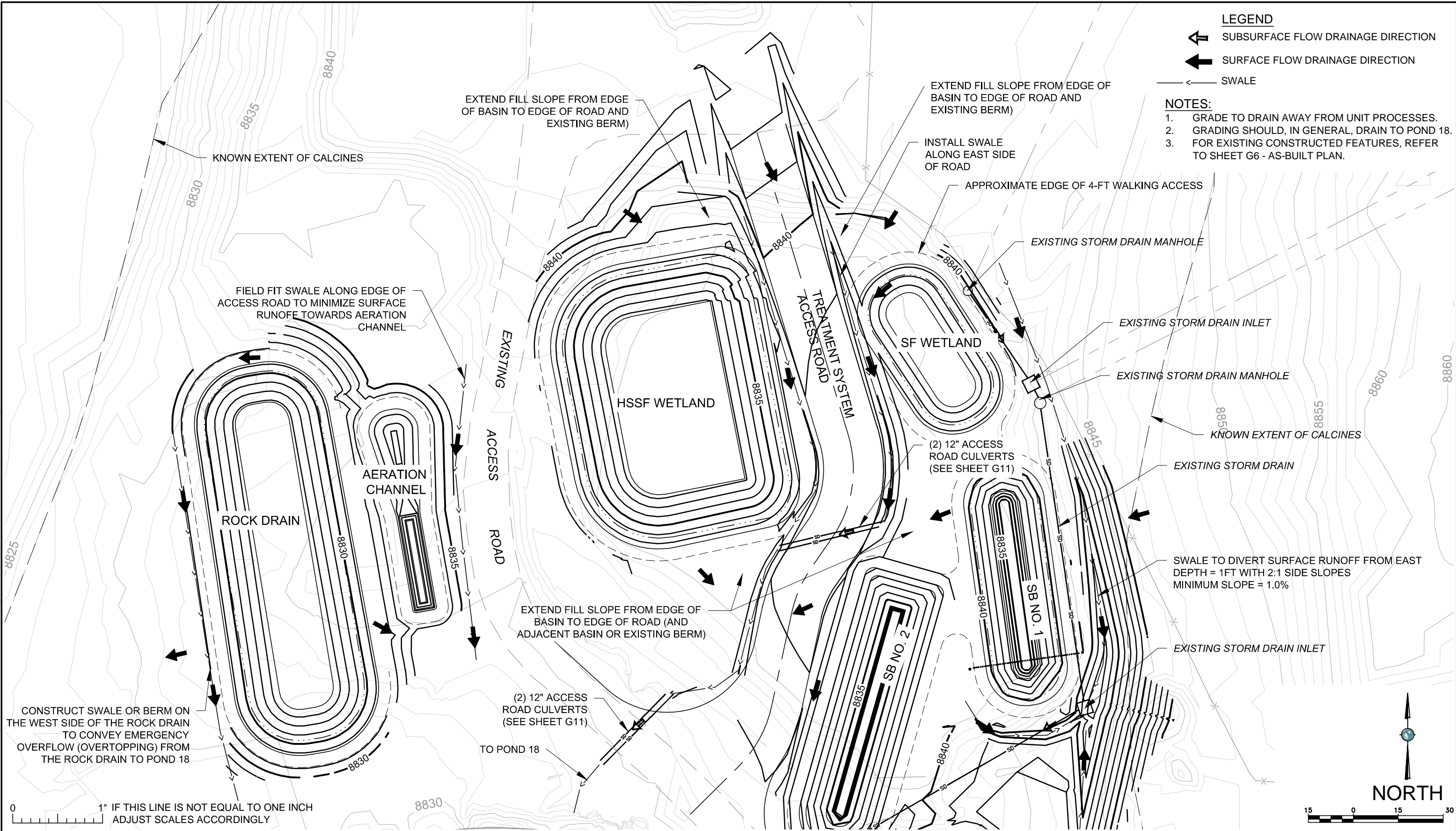








Plot Date: 12/24/13 - 1:47pm, Plotted by: kelly.leaney  
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan Set\ Drawing Name: GRADING AND DRAINAGE PLAN - SOUTH.dwg



LEGEND

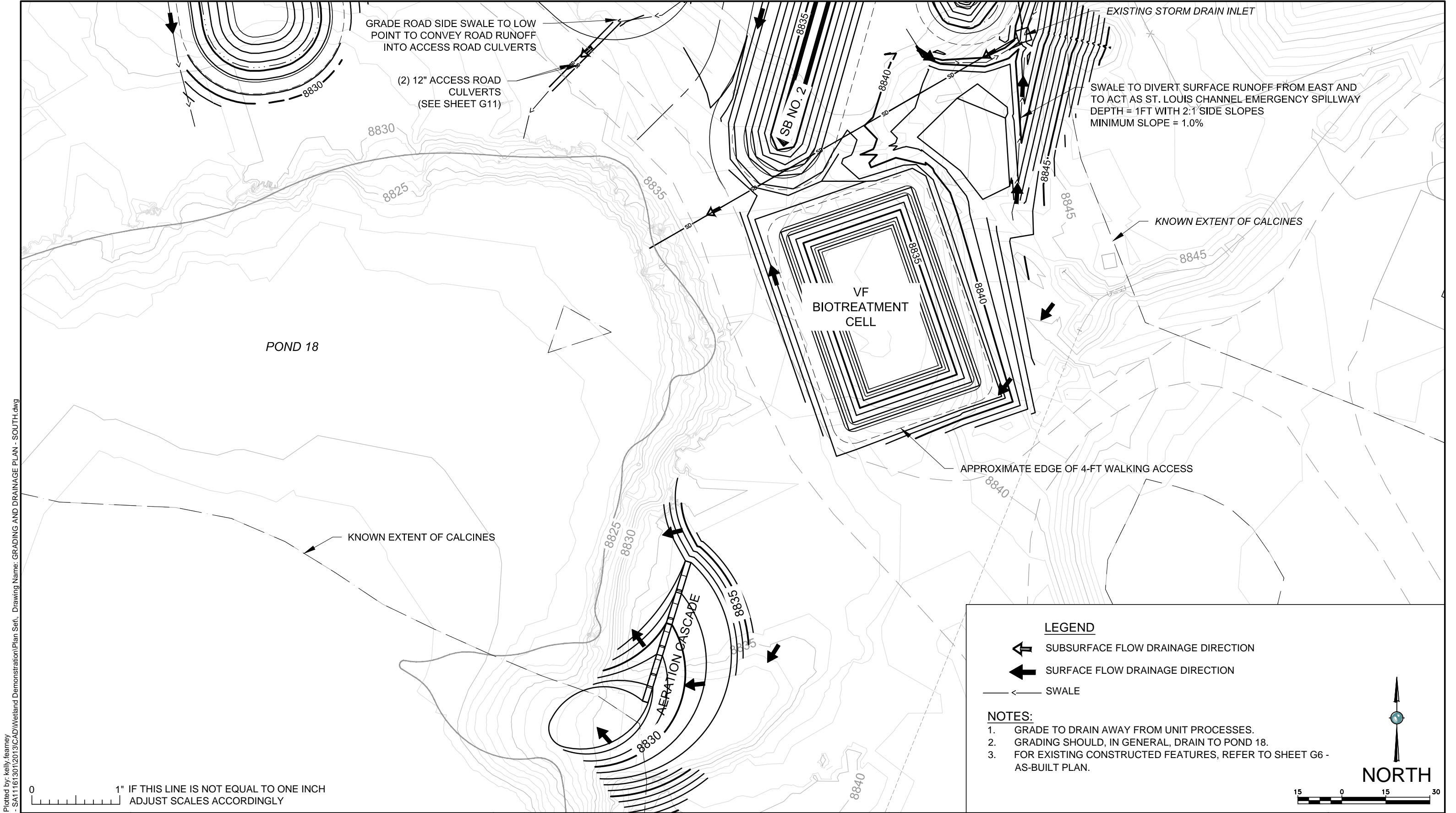
- SUBSURFACE FLOW DRAINAGE DIRECTION
- SURFACE FLOW DRAINAGE DIRECTION
- SWALE

NOTES:

- GRADE TO DRAIN AWAY FROM UNIT PROCESSES.
- GRADING SHOULD, IN GENERAL, DRAIN TO POND 18.
- FOR EXISTING CONSTRUCTED FEATURES, REFER TO SHEET G6 - AS-BUILT PLAN.

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN	KAF	 10670 White Rock Road, Suite 100 Rancho Cordova, CA 95670 (916) 636-3200	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13	
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED	KAF				SCALE: 1" = 30'	
					CHECKED	CBF		GRADING AND DRAINAGE PLAN - NORTH		SHEET: 9 OF 11	
					REVIEWED	STA				PROJ No:	
										SA11161315	
DATUM UTM ZONE 125 FEET, NAD 83										G9	

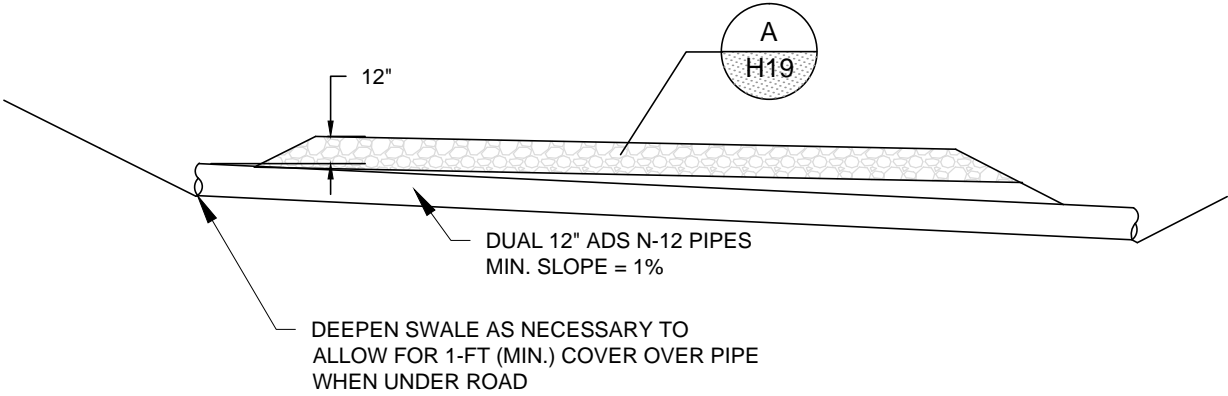
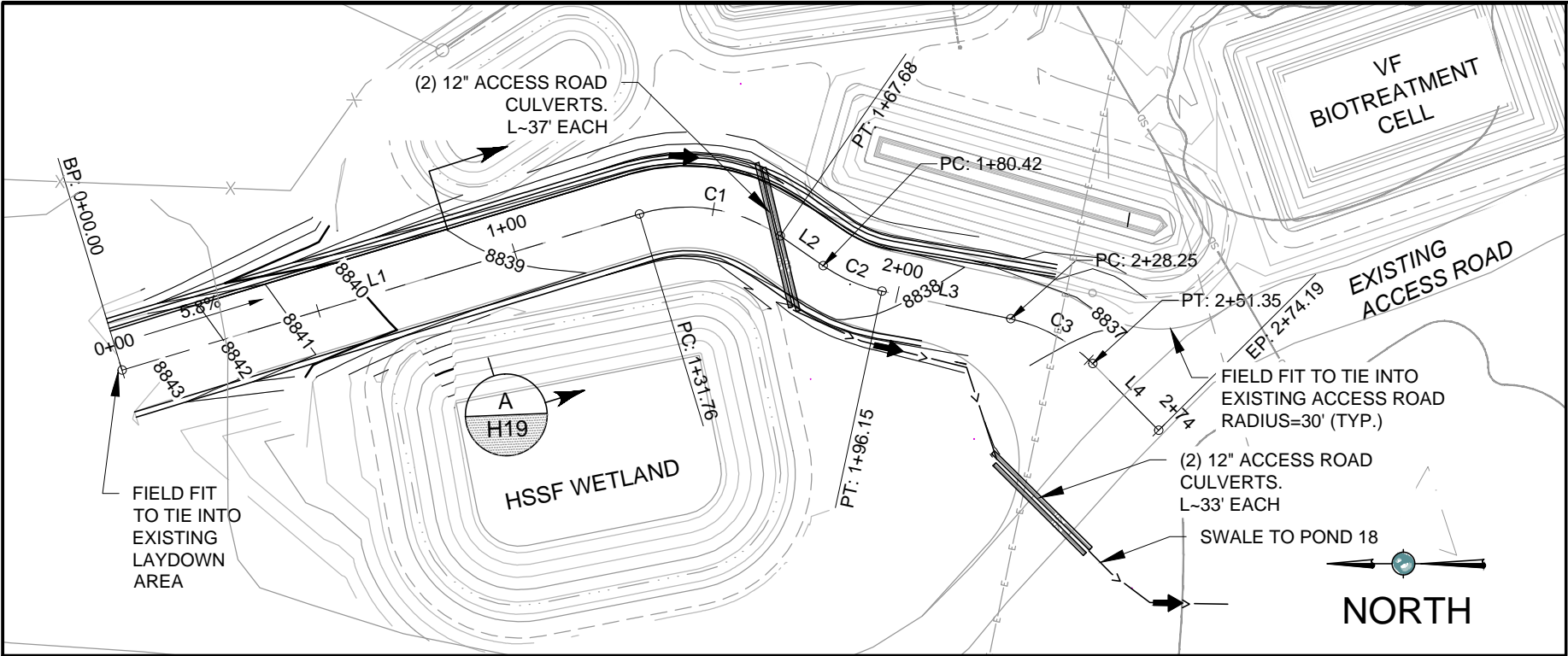




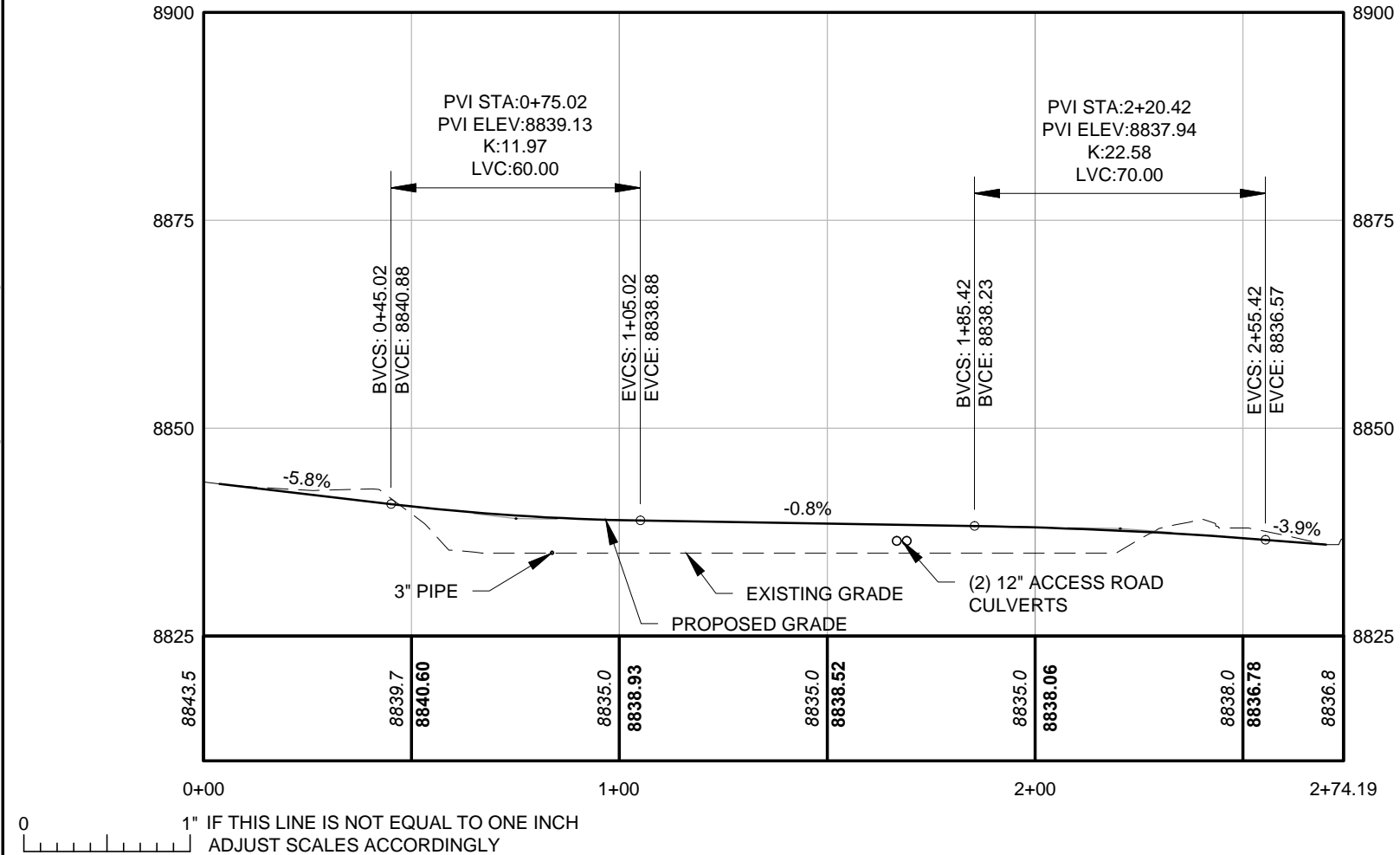
Plot Date: 12/24/13 - 1:47pm, Plotted by: kelly.learney  
Drawing Path: P:\Project\RICO - SA11161301\2013\CAD\Wetland Demonstration\Plan Set\, Drawing Name: GRADING AND DRAINAGE PLAN - SOUTH.dwg

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN_____KAF	 <b>10670 White Rock Road, Suite 100</b> <b>Rancho Cordova, CA 95670</b> <b>(916) 636-3200</b>	RICO - ARGENTINE MINE SITE WETLAND DEMONSTRATION		DATE: 12/24/13		
	1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA	DESIGNED_____KAF				SCALE: 1" = 30'		
							CHECKED_____CBF	GRADING AND DRAINAGE PLAN - SOUTH		SHEET: 10 OF 11	
							REVIEWED_____STA			PROJ No:	
										SA11161315	
DATUM UTM ZONE 125 FEET, NAD 83											





ACCESS ROAD CULVERTS



TREATMENT SYSTEM ACCESS ROAD						
SEGMENT	STARTING STATION	NORTHING	EASTING	DELTA (D-M-S)	RADIUS (FT)	LENGTH (FT)
L1	0+00.00	1,389,265.16	2,267,853.36			
C1	1+31.76	1,389,139.03	2,267,891.45	51-27-04	40.00	35.92
L2	1+67.68	1,389,104.73	2,267,886.06			
C2	1+80.42	1,389,094.24	2,267,878.81	22-31-09	40.00	15.72
L3	1+96.15	1,389,079.90	2,267,872.61			
C3	2+28.25	1,389,048.52	2,267,865.87	33-05-19	40.00	23.10
L4	2+51.35	1,389,028.53	2,267,854.94			

- NOTES:
- TREATMENT SYSTEM ACCESS ROAD WAS PARTIALLY CONSTRUCTED DURING THE 2013 CONSTRUCTION SEASON.
  - CONTRACTOR TO VERIFY EXISTING CONDITIONS.
  - CONTRACTOR RESPONSIBLE FOR MEETING MATERIAL AND EXECUTION SPECIFICATIONS FOR FINAL ACCEPTANCE OF THE TREATMENT SYSTEM ACCESS ROAD.
  - ACCESS ROAD CULVERTS HAVE NOT BEEN INSTALLED.
  - FIELD FIT SWALE LOCATION AND DEPTH SO THAT CULVERTS WILL HAVE MINIMUM 1-FT COVER UNDER THE EXISTING AND PROPOSED ACCESS ROADS.
  - FROM STA 0+00 TO STA 1+60, PROVIDE 2% CROSS SLOPE ON ACCESS ROAD TOWARDS EAST. FROM STA 1+60 TO STA 1+80, TRANSITION CROSS SLOPE FROM EAST TO WEST. FROM STA 1+80 TO END, PROVIDE 2% CROSS SLOPE ON ACCESS ROAD TO WEST. WARP CROSS SLOPE AT TIE IN TO EXISTING ACCESS ROAD AS NECESSARY.
  - PROFILE VERTICAL EXAGGERATION = 2.

Plot Date: 12/24/13 - 1:47pm, Plotted by: kelly.leaney  
Drawing Path: P:\Project\RICO - SA111613012013\CAD\Wetland Demonstration\Plan Set, Drawing Name: Access Plan.dwg

REFERENCES:  
PLANS

DATUM  
UTM ZONE 125  
FEET, NAD 83

NO.	REVISION	DATE	APRVD
1	FINAL - ISSUED FOR EPA REVIEW	12/24/13	STA

DRAWN \_\_\_\_\_ MGC  
DESIGNED \_\_\_\_\_ KF  
CHECKED \_\_\_\_\_ CBF  
REVIEWED \_\_\_\_\_ STA

10670 White Rock Road, Suite 100  
Rancho Cordova, CA 95670  
(916) 636-3200

RICO - ARGENTINE MINE SITE  
WETLAND DEMONSTRATION

TREATMENT SYSTEM ACCESS  
ROAD PLAN AND PROFILE

DATE: 12/24/13  
SCALE: 1" = 40'  
SHEET: 11 OF 11

PROJ No:  
SA11161315

G11